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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,689	06/13/2001	Robert D. Fields	10276 (3080-0060	4306

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EXAMINER	
DOTE, JANIS L	
ART UNIT	**PAPER NUMBER**
1756	

DATE MAILED: 03/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

Office Action Summary	Application No.	Applicant(s)	
	09/880,689	FIELDS ET AL.	
	Examiner	Art Unit	
	Janis L. Dote	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,4-7,9-11,13-20,22,23 and 35-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,4-7,9-11,13-20,22-33 and 35-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on Feb. 7, 2004, has been entered.

2. The examiner acknowledges the cancellation of claims 1, 3, 8, 12, 21, 34, and 42, and the amendments to claims 2, 4-7, 9-11, 13, 14, 16, 17, 25-27, 30-33, 39, and 41, filed on Feb. 3, 2004 (Amdt0203040), which was entered upon the filing of the RCE. Claims 2, 4-7, 9-11, 13-20, 22-33, and 35-41 are pending.

3. The rejections of claims 3, 4, 8, 9, 11-15, 17, 18, 20-29, 32-34, and 37-39 under 35 U.S.C. 112, second paragraph, set forth in the office action mailed on Aug. 29, 2003 (CTFR082903), paragraph 5, have been withdrawn in response to the cancellation of claims 3, 8, 12, 21, and 34, and the amendments to claims 4, 9, 11, 13, 14, 17, 25-27, 32, and 33.

The objection to claim 1 set forth in CTFR082903, paragraph 6, has been mooted by the cancellation of claim 1.

The rejection of claims 30 and 35 under 35 U.S.C. 102(e)/103(a) over US 6,074,795 (Watanabe), set forth in CTFR082903, paragraph 8, has been overcome. Applicants have provided the necessary information, i.e., source and publishing date of the Nash reference, filed on Feb. 3, 2004. Thus, the rejection over Watanabe is withdrawn for the reasons given by applicants in the amendment filed on Nov. 12, 2002, pages 8-11.

The rejections of claims 1-7, 10, 16, 19, and 42 under 35 U.S.C. 103 (a) over US 6,103,439 (Ogawa) and the other cited references set forth in CTFR082903, paragraphs 9-12, have been withdrawn in response to the cancellation of claims 1, 3, and 42, and the amendments to claims 2, 4-7, and 10, filed in Amdt020304. Instant claims 2, 4-7, 10, and 19, which now depend from instant claim 31, recite all the limitations of now-cancelled claim 1 and the limitation that the toner particles have a charge rate such that the 2'/10' MECCA charge ratio is from about 0.9 to about 1.1. None of the cited references teaches or suggests toner particles having the charge rate recited in instant claims 2, 4-7, 10, 19, and 31.

The rejections of claims 8, 9, 11-15, 17, 18, and 20-29 under 35 U.S.C. 103 (a) over US 6,103,439 (Ogawa) and the other cited references set forth in CTFR082903, paragraphs 13-16, have been withdrawn in response to the cancellation of claims 8, 12,

and 21, and the amendments to claims 9, 11, 13, 14, 17, and 25-27, filed in Amdt020304. Instant claims 11, 14, 15, 17, 20, 23, and 24, which now depend from instant claim 31, recite all the limitations of now-cancelled claim 1 and the limitation that the toner particles have a charge rate such that the 2′/10′ MECCA charge ratio is from about 0.9 to about 1.1. Instant claims 9 and 18, which now depend on instant claim 32, require that the toner particles comprise a particular composition and have a charge rate such that the 2′/10′ MECCA charge ratio is from about 0.9 to about 1.1. Instant claims 13, 22, and 25-29, which now depend from instant claim 40, require that the toner particles have a particular composition and have a charge rate such that the 2′/10′ MECCA charge ratio is from about 0.9 to about 1.1. None of the cited references teaches or suggests toner particles having the particular compositions recited in the instant claims and have a charge rate such that the 2′/10′ MECCA charge ratio is from about 0.9 to about 1.1.

The rejection of claim 42 under 35 U.S.C. 103(a) over US 4,912,009 (Amering) combined with Diamond, Handbook of Imaging Materials, p. 169, set forth in CTFR082903, paragraph 18, has been mooted by the cancellation of claim 42.

The rejection of claims 30 and 35 under 35 U.S.C. 102(b)/103(a) over US 5,922,822 (Wilson′822), set forth in

CTFR082903, paragraph 19, has been withdrawn in response to the amendment to claim 30, adding the limitation that the toner particles comprise either a cross-linked styrene-acrylate polymer or a polyethylene wax. Wilson does not exemplify toner particles comprising a cross-linked styrene-acrylate polymer or a polyethylene wax and having the 2'/10' MECCA charge ratio recited in instant claim 30.

4. Applicants are advised that should claims 2, 16, 32, and 37 be found allowable, claims 4, 17, 40, and 41, respectively, will be objected to under 37 CFR 1.75 as being substantial duplicates thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

5. The term "2'/10' MECCA charge ratio" is defined as the ratio of the level of charge obtained in 2 minutes of charging the toner to the level of charge obtained after 10 minutes of charging, where the charge is determined in a MECCA device. See

the instant specification, page 19, lines 15-21, and page 22, lines 1-15.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 13-15 and 22-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 and claims 15, 23, and 24, which depend from claim 14, are indefinite in the phrase "colloidal silica particles are present from about 0.2 wt% to about 0.3 wt% silica" (emphasis added), because it is not clear on what the recited weight percentage is based, e.g., the total amount of silica present in the toner particles or the amount of silica present in the surface treatment agent.

Claims 15 and 24 are further indefinite in the phrase "release agent . . . comprises about 1.8 wt% polyethylene wax" because it is not clear what is the basis of said weight

percent, e.g., the total amount of release agent present in the toner particles or the weight of the toner particles.

Claims 13 and 22 are indefinite in the phrase "release agent . . . comprises from about 0.1 wt% to about 10 wt% polyethylene wax" because it is not clear what is the basis of said weight percent, e.g., the total amount of release agent present in the toner particles or the weight of the toner particles.

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 14, 15, 23, 24, 30, and 35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

(1) If the amount of the internally added colloidal silica particles, "about 0.2 wt% to about 0.3 wt%," recited in instant claims 14, 15, 23, and 24 is based on the total amount of silica present in the toner particles or on the amount of silica present in the surface treatment agent, the originally filed specification does not provide an adequate written description of either basis. The originally filed specification at page 8, line 15, discloses that the inorganic particles, e.g., colloidal silica particles, may be present in the preferred amount of "about 0.2 to about 0.3 wt% based on the weight of the toner [i.e., toner particles]." Applicants have not identified, and the examiner cannot find, any disclosure in the originally filed specification that the internally added colloidal silica particles are present in either of the interpreted amounts of claim 14.

(2) Instant claims 30 and 35 recite that the "toner particles include a polyethylene wax or a cross-linked styrene-acrylate polymer."

The originally filed specification does not provide an adequate written description of said toner particles. The originally filed specification at page 9, lines 19-20, discloses that the toner binder resin may comprise a cross-linked styrene-acrylate polymer. The term "cross-linked styrene-acrylate

polymer" recited in instant claims 30 and 35 is broader than the disclosed toner binder resin, because it encompasses said polymer being used other than as a toner binder resin, e.g., being used in polymeric surface treatment particles.

10. The indicated allowability of claims 31-34 and 36-41 is withdrawn in view of the newly discovered reference to US 6,692,880 B2 (Fields'880). Fields has an effective filing date of May 14, 2001, which is before the filing date of Jun. 13, 2001, of the instant application. The disclosure cited in Fields'880 has antecedent basis in the US provisional application No. 60/290,707 in the paragraph bridging pages 11 and 12, and at pages 21-23.

Rejections based on the newly cited reference follow.

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12. Claims 30 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,692,880 B2 (Fields'880), as evidenced by the US provisional application 60/290,707 (Application'707).

Fields'880 exemplifies a developer comprising a magnetic carrier and toner particles. The toner particles comprise

88.9 wt% of a crosslinked styrene-butylacrylate copolymer associated with the tradename SB77X1, produced by Eastman Kodak, 6.2 wt% of carbon black, 1.5 wt% of an organo iron complex charge control agent associated with the tradename T77, and 2.0 wt% of a polyethylene wax. The toner particles are surface treated with 0.30 wt% of hydrophobic silica associated with the tradename R972 silica, obtained from Nippon Aerosil. See Fields'880, col. 12, lines 10-20 and 45-51, and Table 3 at col. 13, example 6; and Application'707, page 21, lines 10-13, page 22, lines 13-16, and Table 3 at page 23, example 6. After mixing the toner particles with the magnetic carrier for 2 minutes, the toner particles had a MECCA charge to mass ratio (Q/m) of -16.8 μC/g. After mixing the toner particles with the magnetic carrier for 10 minutes, the toner particles had a MECCA Q/m of -19.4 μC/g. The charge ratio of the Q/m at 2 minutes to the Q/m at 10 minutes is 0.9, which is numerically within the range of about 0.9 to about 1.1 recited in instant claim 30. Fields'880, col. 12, lines 57-63, and Table 3, example 6. Application'707, paragraph bridging pages 22 and 23, and Table 3, example 6.

13. Claims 2, 4-7, 14, 16, 17, 23, 31-33, 36, and 37-41 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the

alternative, under 35 U.S.C. 103(a) as obvious over Fields'880, as evidenced by Application'707.

Fields'880, as evidenced by Application'707, teaches a developer as described in paragraph 12 above, which is incorporated herein by reference.

The toner particles in example 6 of Fields'880 meet the compositional limitations recited in the instant claims but for the presence of colloidal silica or silica in the toner binder resin. The amount of 88.9 wt% of the crosslinked styrene-acrylate copolymer associated with the tradename SB77XL meets the amount of "about 90 wt%" and is within the range of "about 80 wt% to about 95 wt%" recited in instant claims 14 and 33, respectively. The term "about" admits variation. There is no evidence on the present record showing that the amount of "about 90 wt%" recited in instant claim 14 is patentably distinct from the Fields'880 amount of 88.9 wt%. The amount of 1.5 wt% of the organo iron complex charge control agent associated with the tradename T77 meets the amount of "about 1.8 wt%" and is within the range of "about 1wt% to about 2.5 wt%" recited in instant claims 14 and 33, respectively. There is no evidence on the present record showing that amount of "about 1.8 wt%" is patentably distinct from the Fields'880 amount of 1.5 wt%. The amount of 0.30 wt% of the hydrophobic silica is within the

ranges of "about 0.2 to about 0.6 wt%" and "about 0.05 wt% to about 5.0 wt%" recited in instant claims 14 and 33, respectively. See Fields'880, col. 12, lines 10-20, and Table 3 at col. 13, example 6; and Application'707, page 21, lines 10-13, and Table 3 at page 23, example 6.

As discussed above, Fields'880 does not expressly disclose that its toner particles comprise colloidal silica or silica as recited in the instant claims. However, as discussed above, the Fields'880 toner particles meet the compositional limitations recited in the instant claims but for the presence of the colloidal silica or silica. The toner particles also exhibit a 2'/10' MECCA charge ratio of 0.9, which is within the range of "about 0.9 to about 1.1" recited in the instant claims. Thus, based on the above facts, it is reasonable to presume that the toner particles in example 6 of Fields'880 comprise the colloidal silica or silica as recited in instant claims. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

14. Claims 9-11, 13, 15, 18-20, 22, and 24 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fields'880, as evidenced by Application'707.

Fields'880, as evidenced by Application'707, discloses a developer as described in paragraph 13 above, which is incorporated herein by reference.

The toner particles in example 6 of Fields'880 meet the compositional limitations recited in the instant claims but for the presence of the colloidal silica or silica in the toner resin. The amount 2.0 wt% of the polyethylene wax meets the amount of "about 1.8 wt%" recited in instant claims 15 and 33. The term "about" admits variation. There is no evidence on the present record showing that the amount of "about 1.8 wt%" recited in instant claims 15 and 33 is patentably distinct from Fields'880 amount of 2.0 wt%.

For the reasons discussed in paragraph 13, supra, it is reasonable to presume that the toner particles in example 6 of Fields'880 comprise the colloidal silica or silica as recited in instant claims. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Claims 9-11, 13, 15, 18-20, 22, and 24 are written in product-by-process format. Fields'880 does not disclose that the cross-linked styrene-acrylate copolymer is made by a "limited coalescence" process as recited in the instant claims. However, as discussed above, the Fields'880 copolymer meets the compositional limitations recited in instant claims 5, 14, 32,

33, and 40. Accordingly, the Fields'880 copolymer appears to be the same or substantially the same as the toner resin made by the "limited coalescence" process recited in the instant claims. The burden is on applicants to prove otherwise. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983); In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985); MPEP 2113.

15. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fields'880, as evidenced by Application'707, combined with US 5,500,320 (Saha).

Fields'880, as evidenced by Application'707, discloses a developer as described in paragraph 13 above, which is incorporated herein by reference.

Fields'880 does not exemplify a magnetic carrier comprising strontium ferrite particles as recited in the instant claims. However, Fields'880 teaches that the magnetic carrier may comprise ferrite particles, such as ferrites comprising strontium. See Fields'880, col. 6, lines 45-58; and Application'707, page 11, line 14, to page 12, line 7.

Saha teaches hard magnetic carrier particles comprising strontium ferrite particles coated with a polymeric coating. Col. 3, lines 58-67, and col. 9, lines 43-46. Saha discloses that said carrier particles provide developer compositions for

magnetic brush development having high development speeds without loss of copy image quality. Col. 3, lines 2-15, col. 6, lines 25-39, and col. 10, lines 6-41.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Saha, to use Saha's strontium ferrite resin coated particles as the magnetic carrier in the developer disclosed in example 6 of Fields'880, because that person would have had a reasonable expectation of successfully obtaining a developer capable of being used for magnetic brush development having high development speeds without loss of copy image quality.

16. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fields'880, as evidenced by Application'707, combined with Saha, as applied to claim 27 above, further combined with US 5,102,769 (Creatura).

Fields'880, as evidenced by Application'707, combined with Saha renders obvious a developer as described in paragraph 15 which is incorporated herein by reference.

Saha does not teach that its strontium ferrite carrier particles are coated with a blend of polyvinylidiene and polymethmethacrylate polymers as recited in instant claims 28 and 29. However, Saha teaches that his carrier particles can be

coated with a poly(vinylidiene fluoride) resin (e.g., KYNAR) or polymethacrylate resins. Col. 7, lines 7 and 14-15.

Creatura teaches that magnetic carrier particles can be coated with a polymeric coating comprising a blend of poly(vinylidiene fluoride) and poly(methylmethacrylate) in a weight of ratio of 3 to 2. Example V at cols. 11-12. The ratio of 3 to 2 meets the ratio of about 80/20 to about 50/50 recited in instant claim 29. Creatura discloses that developers comprising said carrier particles provide images having acceptable solids, excellent halftones, and desirable line resolution, with acceptable or substantially no background deposits. Col. 10, lines 25-29.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Creatura, to coat Saha's strontium ferrite carrier particles with Creatura's polymeric coating and to use those carrier particles as the magnetic carrier in the developer rendered obvious over the combined teachings of Fields'880 and Saha, because that person would have had a reasonable expectation of successfully obtaining a developer capable of providing toner images having acceptable solids, excellent halftones, and desirable line resolution, with acceptable or substantially no background deposits, as taught by Creatura.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (703) 872-9306.

Any inquiry of papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Janis L. Dote
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PRIMARY EXAMINER
GROUP ~~1500~~ 1700

JLD
Mar. 17, 2004